

FLATHEAD COUNTY TRANSPORTATION PLAN PHASE II

MAINTENANCE RATING SYSTEM TECHNICAL MEMORANDUM

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MAINTENANCE RATING SYSTEM

A rating system has been considered to provide a weighted numerical system for prioritizing maintenance efforts on County roads in Flathead County. Currently, available funding does not cover all the identified needs within the County. The deficiency in funding requires a level of prioritizing projects for funding distribution. Funds can be allocated to maintenance projects located throughout the County based on a numerical system applied to a list of projects.

CRITERIA

A list of important parameters and criteria associated with county maintenance projects is listed in this section. This list is by no means exhaustive and in some cases a number of criteria are presented for the same parameter. Once the criteria are determined, a scoring process can be applied to help sort out the roadways with the highest priority for maintenance efforts.

Project Cost

The cost of the maintenance efforts for a roadway is a key component in determining funding distribution for projects. High cost projects eat up a large chunk of maintenance budgets which can make it difficult to complete multiple high cost projects. Often times multiple low cost projects can be completed quickly and effectively without taking up large parts of the budget. For this reason, low cost projects get priority over high cost ones.

Demand (ADT)

Vehicle demand on a roadway is an important characteristic when prioritizing maintenance funding. Roads that experience high demand often are in need of a higher level of maintenance than roads that see less traffic. Maintenance on roads that receive high ADT levels is important due to the number of drivers that use these roads. Roads with high ADT levels effect more people and are therefore given more points than roads that are used less frequently.

Truck Traffic

Heavy truck traffic can cause an increase in maintenance issues along the roadway. Trucks can be responsible for a high level of “wear-and-tear” which can escalate the need for maintenance. Roads with high truck traffic are given extra points due to their inherent need for extra maintenance.

Connectivity

Connectivity ties into how important a roadway is and what types of areas it is used to connect to. Some areas of importance may only be accessed by one roadway. Special use areas such as parks, recreational areas, farms, and industry often times have rural roads in

need of maintenance. Priority to these types of roads shall be given to ensure these special use roads are properly maintained.

Functional Classification

The functional classification is an indicator of the relative importance of a roadway to the overall transportation network and indicates the purpose of use and character of the roadway. Flathead County classifies their roadways as follows as per GIS database records:

- **Major Arterial:** A road that serves the dual function of distributing traffic between local roads and major activity centers, and providing access to abutting properties. These Major arterials connect arterial networks and also connect neighborhoods to commercial areas. Major arterials should be paved.
- **Minor Arterial:** A road that serves the dual function of distributing traffic, between local roads and major arterials, and providing access to abutting properties. These minor arterials connect arterial networks and also connect neighborhoods to commercial areas. Minor arterials should be paved depending on the District.
- **Collector:** A road used to connect arterials with local, subdivision roads and provide for direct access to residential, commercial, industrial, or other abutting property.
- **Local Road:** Most of these roads are very rural and consist of other subdivision roads or already established low-volume roads.

Safety

The safety on a roadway is of major importance. Reducing crashes and crash severity is a major goal of transportation agencies. A roadway that experiences a high number of incidents should receive high priority for maintenance to help correct problems resulting in the unsafe conditions.

Special Considerations

Additional points should be added to projects located on bus routes, emergency vehicle routes, or mail routes. These routes should be maintained under higher standards than other routes due to their additional uses.

- **Emergency Vehicle Route:** A road located on an emergency vehicle route sees a high number of emergency response vehicles. Emergency response vehicles generally travel at a higher speed than other vehicles on the roadway. The higher speeds require that the roadway be maintained to a high level to allow for safe conditions.
- **School Bus Route:** A road located on a bus route is responsible for the safe transportation of children to and from school. Problems along these routes can cause delays and unsafe conditions for the bus system.
- **Mail Route:** A road located on a mail route is responsible for the transportation of mail carrier vehicles. If these roads are not properly maintained, an interruption in mail service may occur.

POINT ALLOCATION

Numeric values should be assigned to the evaluation criteria discussed in the previous section. The criteria should be weighted with the highest level of significance receiving the highest score. **Table 1** shows the points assigned for each criteria listed in the previous section. Funding should be allocated to projects in order of importance, starting at the ones receiving the highest number of points down to the ones receiving the lowest number. Once the criteria and point system is decided upon, a calibration process should be used to adjust the point system to ensure that the proper criteria are controlling the point distribution to each project. It must be verified that the projects of highest importance get the highest number of points.

TABLE 1: COUNTY ROAD MAINTENANCE RATING SYSTEM

Project Cost:	15
<\$25,000	15
\$25,000-\$100,000	7.5
>\$100,000	0
Demand (ADT):	15
<400 vpd	0
400-2000 vpd	7.5
>2000 vpd	15
Truck Traffic:	5
<2%	0
2-5%	2.5
>5%	5
Connectivity:	15
<i>Links between towns and cities</i>	5
<i>Access to parks, wildlife and recreational opportunities</i>	5
<i>Access to rural farms and industry</i>	5
Functional Classification:	15
<i>Major Arterial</i>	15
<i>Minor Arterial</i>	10
<i>Collector</i>	5
<i>Local Road</i>	0
Safety:	20
<i>>20 incidents in the past 5 years</i>	5
<i>>5 injuries in the past 5 years</i>	5
<i>Death in the past 5 years</i>	10
Special Consideration:	15
<i>Emergency Vehicle Route</i>	7
<i>School Bus Route</i>	5
<i>Mail Route</i>	3
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Total:	100

CONCLUSION

By using the criteria and point system listed in this memorandum, ratings can be determined for each road maintained by the County. Sorting these ratings from highest to lowest can determine which maintenance projects get funded first. Each roadway segment maintained has an associated dollar amount that complements the effort, and by completing a cumulative summary of funds expended, the limit at which maintenance operations exceed the available funding can be found. This will give a good indication about which roadways can be maintained given current funding, and which roadways cannot be maintained.